

Application No. 10/696,788
 Amendment Dated 6/23/2006
 Reply to Office Action of 4/27/2006

Remarks/Arguments

Former claims 1-20 are canceled and replaced with new claims 21-40, respectively, to supersede the claims presented in the "Amendment in Reply to the Office Action dated 12/5/2005." New claim 21 replaces former claim 1. New claims 22-40 are identical to former claims 2-20 as originally filed on 10/30/2003. In the "Amendment in Reply to the Office Action dated 12/5/2005," withdrawn claims 19-20 were inadvertently omitted from the Amendment and are presented here as new claims 39-40.

Former claims 11-20 were previously withdrawn pursuant to an election in reply to a restriction requirement. Claims 31-40 replace former claims 11-20, respectively, and are identical to claims 11-20 as originally filed on 10/20/2003. Applicant consents to Examiner's withdrawal of new claims 31-40 to facilitate prosecution of this application, consistent with the previous election and restriction requirement.

Former claims 1-10 were rejected under 35 U.S.C. 103(a) as being anticipated by Keller (U.S. Pat. No. 6,463,374) in view of Staub (U.S. Pat. No. 6,236,916.) This rejection is respectfully traversed for the following reasons.

Keller discloses a guidance system that compensates for a decrease to the spraying width where a vehicle is operating on horizontally sloped terrain. (Col. 9, lines 55-67 and Col. 10, lines 1-4.) The decreased spraying width is also referred to as the "effective horizontal swath width." (Col. 9, lines 63-67 and Col. 10, lines 1-4.) Accordingly, Keller facilitates spacing adjacent paths of the vehicle by an effective horizontal swath width, which is less than a physical swath width to effectively cover a field. (Col. 10, lines 10-12.) Although Keller mentions using multiple global positioning system (GPS) antennas to determine "longitudinal slope or pitch," (Col. 10, lines 32-38) nothing in Keller describes using a "maximum slope" or "aspect" for guidance of a vehicle. The guidance information is generated for an operator of a sprayer rig, who may turn the steering wheel based on feedback from LED's activated on a light bar 72. (Col. 6, lines 8-9; Col. 6, lines 47-48 and FIG. 4.)

Staub defines "roll" as equivalent to the "angular pitch or tilt, of the agricultural machine." (Col. 4, lines 24-27.) Staub's definition of "roll" is inconsistent with the following dictionary definitions. Roll means "side-to-side movement" or "the motion of an aircraft or spacecraft about its longitudinal axis." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 1080 (11th ed. 2006). Pitch means "to turn about a lateral axis so that the forward end rises or falls in relation to the after end." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 944 (11th ed. 2006). Thus, according to the foregoing dictionary definitions, roll and pitch are associated with axes that are generally perpendicular to each other, contrary to the language of Staub.

In FIG. 4 of Staub, "one side of the agricultural machine is 102 is raised, while the

Application No. 10/696,788
Amendment Dated 6/23/2006
Reply to Office Action of 4/27/2006

other side is not, thus resulting in a roll by angle θ ." (Col. 4, lines 34-37.) Staub merely references a "roll of 10 degrees" to emphasize a corresponding "lateral error" of approximately 52 centimeters in the location of the vehicle would result. (Col. 4, lines 46-48.) Staub does not consider any longitudinal error that would result. Further, although Staub references "roll of significant magnitude" (Col. 4, lines 44-59), the quoted term does not refer to a "maximum slope" associated with the "aspect", but rather a material roll angle. Staub's "roll of significant magnitude" is distinct from the "maximum slope" and "aspect"; and particularly when considered in the context of the new claim language. Moreover, Staub does not disclose any method for guidance based on any "maximum slope" associated with the "aspect" or a maximum roll, contrary to any suggestion in the Office Action, dated 4/27/2006. (Office Action, dated 4/27/2006 at page 3.)

Even if Keller and Staub could be combined, the alleged combination would not meet claim 21. In contrast to the alleged combination of Keller and Staub, claim 21 now recites that "the roll data" is "associated with a corresponding lateral slope, the pitch data" is "associated with a corresponding longitudinal slope generally perpendicular to the lateral slope." Keller merely focuses on using roll data to determine the effective swath width or spacing between adjacent paths (or rows) of the vehicle, rather than guiding the vehicle to follow a target path. (See, e.g., Col. 10, lines 10-12.) Staub considers correction for the roll only (Col. 5, lines 50-63). Staub does not disclose correction for both roll and pitch, as defined above in the cited dictionary.

In addition, the alleged combination does not teach or suggest the "aspect" or the "maximum slope" as defined in claim 21. Claim 21 now recites that (1) "the aspect" is "defined with reference to a direction of travel of the vehicle" and (2) the "maximum slope" comprises "the lateral slope and the longitudinal slope as components of the maximum slope." The Examiner is referred to FIG. 5A of the present application, which illustrates the "aspect" and the "slope" (e.g., maximum slope). Neither Keller, nor Staub, alone or in combination, teaches or suggests that the "aspect" is "defined with reference to a direction of travel of the vehicle." The Office Action stated that "Keller does not specifically disclose that the vehicle is guided based upon an aspect which represents a direction of maximum slope corresponding to a direction." (Office Action, dated April 27, 2006 at page 3.) Staub does not make up for the previously noted deficiency of Keller because Staub does not disclose the "aspect," but merely discloses roll as previously explained above. (See, e.g., Col. 5, lines 52-64.) Further, neither Keller, nor Staub, alone or in combination, teaches or suggests that the maximum slope comprises the lateral slope and the longitudinal slope as components of the maximum slope."

For the foregoing reasons, Applicants respectfully request a withdrawal of the

Application No. 10/696,788
Amendment Dated 6/23/2006
Reply to Office Action of 4/27/2006

rejection of claim 21. Because claims 22-30 depend upon claim 21, claims 22-30 are patentable for at least similar reasons to claim 21.

In conclusion, it is believed that this application is in condition for allowance, and such allowance is respectfully requested.

Any fees or charges due as a result of filing of the present paper may be charged against Deposit Account 04-0525.

Respectfully,



Attorney for Applicant(s)

Darin E. Bartholomew
Reg. No. 36,444
Patent Department
Deere & Company
One John Deere Place
Moline, IL 61285
Telephone No. (309) 765-5615

I hereby certify that this correspondence is being transmitted
via facsimile to the United States Patent and Trademark
Office or deposited with the United States Postal Service as
first class mail in an envelope addressed to:
Mail Stop 8CE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
on 6/23/06 Date

Deere & Company


Signature Date 6/23/06